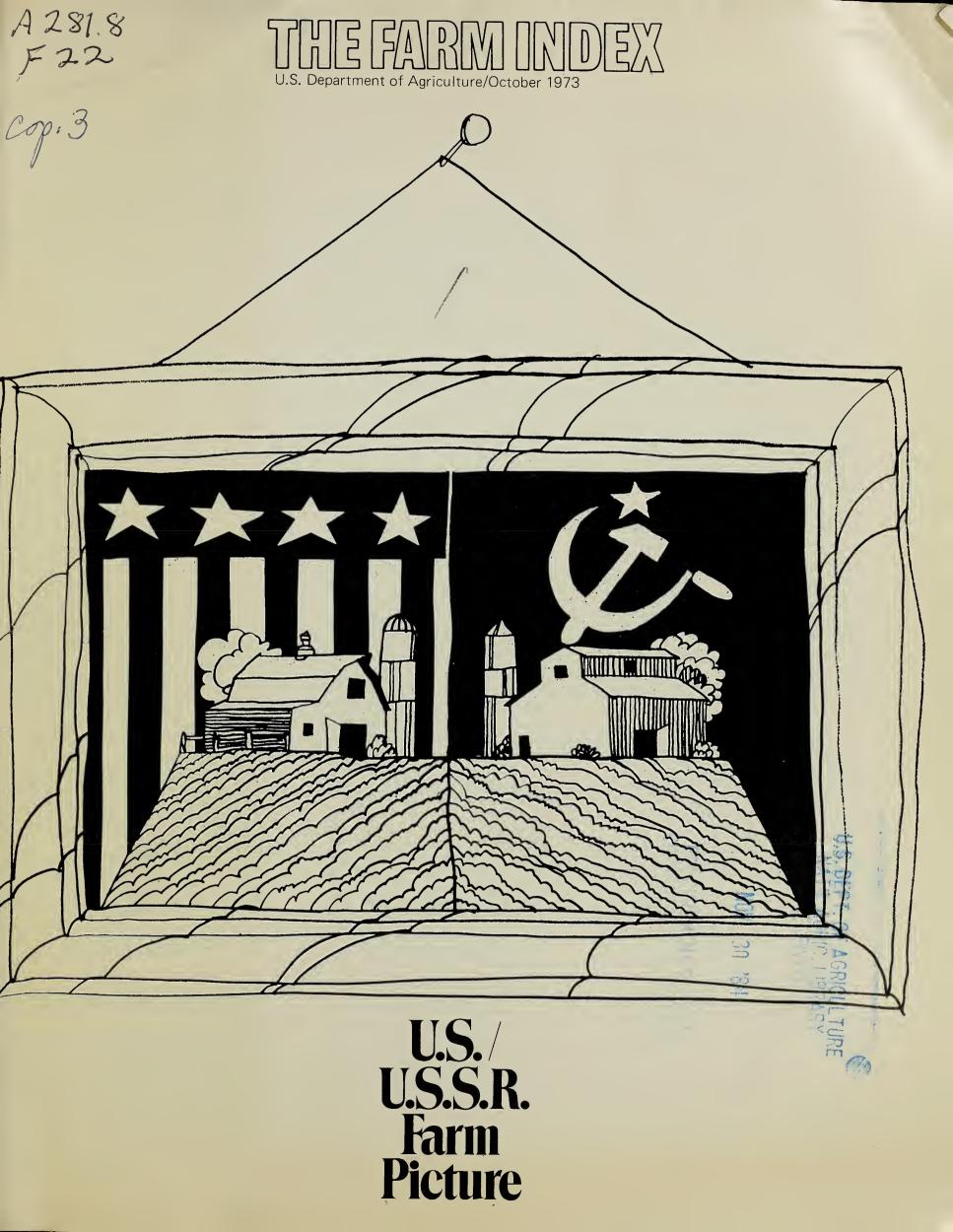
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Outlook

With an eye to getting out more timely information, ERS's Outlook and Situation Board is issuing supply and demand estimates following key crop and grain stocks reports.

In mid-September, the first of these "Agricultural Supply and Demand Es? timates" reported that prospects for feed grain, soybean, wheat, and cotton crops had improved, easing somewhat the heavy supply-demand pressures for the 1973/74 marketing year. But for rice, the pressures persist despite a large increase in the 1973 crop.

The 1973 wheat crop, at a record 1.7 billion bushels, fell short of expected usage, and carryover stocks may go down by next summer to about 300 million bushels. Acreage and production should expand further in 1974, offset the reduced carryover, and lift the supply a little above the current level. Assuming little change in total use, stocks could then increase again by around 100 million bushels.

A boost in corn and sorghum crop prospects has eased the tight supply-demand situation a bit for feed grains. Use, however, will likely about equal last season's record volume and result in a small decline in stocks by the end of the 1973/74 marketing year.

The soybean crop has progressed well, and total supply for 1973/74 is almost 23 percent more than last year's. Soybean carryover for next September 1 is projected at 200 million bushels, triple that of this year.

Soybean oil carryover is expected to be tight. However, increased soybean oil production in 1973/74 should permit an increase in domestic use of about the normal 300 million pounds and still increase carryout stocks on October 1, 1974, by about 300 million pounds.

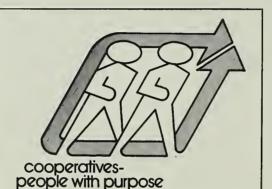
Because of an anticipated increase in competing world supplies, including soybean oil from U.S. bean exports and a reduction in P.L. 480 export assistance programs, 1973/74 exports of oil are estimated at 1 billion pounds, off about 200 million from 1972/73.

Projected soybean planted acreage

for 1974 is down a little because of the large anticipated increases in corn and cotton acreages and the assumption of normal 1974 crop planting weather.

Total rice demand is expected to continue strong, with the world supply the smallest in years and domestic demand on the rise. The September crop report put the 1973 rice crop at 98.4 million cwt., 16 percent above 1972, but that did not reflect losses resulting from tropical storm Delia.

The Nation's milk flow will drop for the first time in 3 years, off 3 percent from 1972's 120.3 billion pounds. Output has been down all year, but the rate of decline quickened from 1 percent early in the year to 4 percent in August. Experts now see production



October marks Cooperative Month, the national observance of co-ops, in which some 23 million American families take part.

Co-ops around the Nation will be having special meetings and events, geared to the theme "Cooperatives . . . People With Purpose." On a national level, three distinguished service awards will be announced for statesmenship, communications, and international development.

Playing a big role in the agricultural economy, co-ops in 1969–70 handled a net volume of \$19 billion of cooperative business—unadjusted for changes in the price level, up from \$8 billion in 1950–51.

Cooperatives' share of the market by 1970 was 73 percent for dairy products, 32 percent for grain, soybeans and soybean meal and oil, 27 percent for fruits and vegetables, 26 percent for cotton and cotton products, and 9 percent for poultry.

well below year-earlier levels for the remainder of 1973.

Soaring feed prices are reducing output per cow as dairymen cut back on grain feeding, skimp on high-priced protein supplements, and depend more on pasture and roughage. Milk production per cow could easily drift below last year's 10,271-lb. average for the first annual dip since the forties.

High prices for slaughter cows have encouraged heavy culling of herds and prodded more than a few dairymen to call it quits. Milk cow numbers, which declined a sharp 3 percent in August, may drop at a faster clip before the year is out.

Slaughter cow prices, along with feed prices, are expected to continue high throughout the fall and winter.

Also on the lofty side: farm milk prices, up 15 percent in August for a record \$6.88 per hundred pounds. Declining milk production and firm market demand may push prices higher by year's end.

Despite a drop in milk marketings, dairymen may gross \$7.8 billion this year, up from \$7.2 billion in 1972. But with receipts outpaced by production costs, net returns may prove smaller than last year. Production items this past January-August cost dairymen 19 percent more than in 1972.

California's almond harvest, now in full swing, should yield about 130,000 tons. That's 4 percent over last year, and growers expect good markets despite larger supplies.

Carryover from 1972/73 is small and domestic demand remains strong. Europeans, aided by the devalued dollar, plan to buy heavily since bad weather severely dampened crop prospects in Italy, Spain, and other major almond regions.

After surging to \$785 per ton last year, prices should hold high through the season.

Walnut output is seen a fifth larger, with California supplying most of the projected 140,500 tons. Prices jumped a third last year and will probably continue firm into 1974.

Pecans will also be more bounti-

Contents

ful—at 263 million pounds, 43 percent above last year's short crop . . . welcome news since preharvest supplies were nearly nonexistent.

Demand for cotton during 1973/74 promises to eclipse the 1973 crop—an about-face from the previous marketing year.

The September crop report placed production at 12.9 million bales, down 3/4 million from 1972, which more than offsets larger beginning stocks early last August.

Total cotton use in the 1973/74 crop year is seen a little over last year's sizable 13.1 million bales. High prices and tight supplies may lower domestic mill use a bit but exports will probably more than pick up the slack.

As of August 24, producers had already committed slightly over 6 million bales to overseas buyers. Mounting foreign demand for U.S. cotton reflects limited stocks of manmade fibers and rising competition for land from food crops.

Adding to the upsurge are dollar devaluation and uncertain world monetary conditions which make U.S. commodities attractive to importers.

On the domestic front, manmades are in tight supply but continue their relentless advance into U.S. fiber markets. Even the boom in denim and corduroy appears to be slowing with output of these 100-percent cotton items trailing off somewhat in favor of blends.

Help for cotton is in the offing for fiscal 1974 under a \$24 million program aimed at expanding markets. Financed by \$1-per-bale-producers' contributions and Commodity Credit Corporation funds, 65 percent will be spent for promotion and market development with the rest earmarked for cotton research.

The tobacco supply may come close to a desired balance with demand this year, as carryover takes its ninth straight annual decline. The tobacco crop is a little larger this year, but a smaller carryover is reducing supply for the 1973/74 marketing year by 3½ percent, and supply is at 5.1 billion pounds.

FARM

4 Farmers' Families Make Less Than Others

Farmers' families have a ways to go to catch up with incomes of the rest of the population

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Note: Readers are invited to write for the research materials on which we base our articles. Address queries to The Farm Index, Rm. 1459, Economic Research Service, U.S. Department of Agriculture, Wash. D.C. 20250. Please cite article titles when ordering.

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The incomes of farmers' families will have to rise faster than in the 1960's just to maintain the gap between their incomes and the rest of the population.

If the incomes of farm families are catching up to those of nonfarm families, it could be because more and more farm people are turning to other jobs to supplement their farm earnings.

Figures from the Census of Agriculture show that 54 percent of farm operators reported off-farm work in 1969—up from 46 percent 5 years earlier. And in the 1962–72 period, the gap between incomes of farm and nonfarm families closed by about \$105 a year, according to the Cur-

rent Population surveys by the Census Bureau.

But what about the farm families who depend mainly on agriculture for a living—how are they doing relative to the rest of the population?

Figures are not yet available for 1973, a year when farm income is expected to break all records. However, a study by one ERS economist revealed that during 1962–72 the families of farmers and farm managers made little or no progress in narrowing the income gap.

This economist examined income of farm people from two angles. He first looked at incomes of families living on farms, then at incomes of farmer and farm manager families —those in which the family head worked mostly at farming. He compared income gains of both groups with gains by all U.S. families.

What's a farm? For this analysis, farm families are those living on "farms" as defined by the Census of Agriculture: a place with at least 10 acres and with annual sales of farm products of \$50 or more; or a place with under 10 acres and with sales of \$250 or more.

Whereas place of residence mainly determines whether a family is a farm family, occupation is the overriding criterion in the farmer-farm manager classification. Farmer and farm manager households are headed by persons who spend most of their time working at farming.

Most farmer families live on farms. But some do not, so they are counted as nonfarm residents.

Farm vs. all U.S. families. In comparing incomes of farm and all U.S. families, the economist calculated that farm family incomes grew 6.5 percent a year in 1962–72 versus 3.0 percent for all U.S. families.

In 1972 dollars, the median or midpoint income of farm families rose from \$4,728 in 1962 to \$8,849 in 1972. The median for all U.S. families increased from \$8,247 to \$11,116. So the income gap narrowed from \$3,519 in 1962 to \$2,267 in 1972.

In contrast, the dollar gap between incomes of all U.S. families and farmer-farm manager families did not change significantly. But because they began the period with lower incomes, farmers and farm managers were making faster percentage gains in income than all U.S. families.

In 1962, the median income for farmer families was \$4,602 and for

the U.S. population, \$8,247—a difference of \$3,645. By 1972, farmer family incomes had climbed to \$8,303 compared with \$11,116 for all U.S. families—a spread of \$2,813. From a statistical standpoint, this decrease in the spread is not considered to be significant because 1962 or 1972 may have been an unusual year.

Just to keep up. In any event, the incomes of farmer and farm manager families by 1972 were still well behind those of the rest of the population. Even to maintain the income gap at the 1972 level would require that farmer family incomes increase at a faster rate than in the last decade. The rate was 6.1 percent for farmer families, compared with 3.0 percent for other families.

[Based on paper by Edward I. Reinsel, National Economic Analysis Division, entitled "Farm Family Incomes Improve: Farmers Scarcely Keep Up," presented at American Agricultural Economics Association meeting, August 1973, Edmonton, Canada.]

MEDIAN FAMILY INCOMES IN SELECTED FARM STATES, 1969

				Income Gap		
State & Region	All Families	Farmer & Farm Manager Families 1	Farm Families ²	Between all families and farmer-farm manager families	Between all families and farm families	
			Dollars			
Lake States						
Mich.	11,032	7,828	9,258	3,204	1,774	
Wisc.	10,068	7,645	8,252	2,423	1,816	
Minn.	9,931	6,209	6,757	3,722	3,174	
Corn Belt						
Ohio	10,313	7,673	8,708	2,640	1,605	
Ind.	9,970	8,073	8,863	1,897	1,107	
III.	10,959	8,405	8,450	2,554	2,509	
lowa	9,018	7,779	7,881	1,239	1,137	
Mo.	8,914	6,000	6,336	2,914	2,578	
N. Plains						
N. Dak.	7,838	6,827	6,716	1,011	1,122	
S. Dak.	7,494	6,137	6,040	1,357	1,454	
Nebr.	8,564	6,732	6,670	1,832	1,894	
Kans.	8,693	6,858	6,996	1,835	1,697	

¹ Headed by persons who spend most of their time working at farming. ² Living on farms as defined by the Census of Agriculture. SOURCE: 1970 Census of Population.

California Leads Nation In 1972 Cash Receipts

California, Iowa, and Texas have again ranked 1-2-3 in the Nation in the value of their farm marketings.

Leading all other States in 1972, California's cash receipts totaled \$5.5 billion. Iowa's totaled \$4.7 billion, and Texas', \$3.9 billion.

Iowa was first in cash receipts for livestock with \$3.3 billion worth, followed by Texas at \$2.6 billion, and California at \$2.2 billion.

California led for all crops, at \$3.3 billion, followed by Illinois at \$1.9 billion and Iowa and Texas, both at \$1.4 billion.

The ERS figures are based on sales of the 25 chief commodities. These sales totaled \$60.7 billion last year—\$35.6 billion in livestock and \$25.1 billion in crops.

Other leading States were Illinois at \$3.4 billion; Kansas, \$2.8 billion; Nebraska, \$2.7 billion; Minnesota, \$2.4 billion; Missouri, \$1.9 billion; Wisconsin, \$1.9 billion; and Indiana, \$1.8 billion.

At the other end of the pole, Alaska ranked 50th with \$5 million in cash receipts for the year.

Of all commodities, cattle and calves brought the highest cash receipts, totaling \$18.2 billion—nearly a third of total farm marketings. Texas, Iowa, and Kansas ranked 1-2-3 in cattle and calf receipts.

Dairy products were the secondranking commodity with total receipts of \$7.2 billion. Wisconsin, New York, and California led in these marketings.

The other top ten commodities were hogs at \$5.4 billion; soybeans, \$4.3 billion; corn, \$3.6 billion; wheat, \$2.3 billion; eggs, \$1.8 billion; broilers, \$1.6 billion; cotton lint, \$1.6 billion; and tobacco, \$1.4 billion.

Greenhouse and nursery commodities ranked 11th, followed by hay, sorghum grain, potatoes, and oranges.

[Based on Farm Income State Estimates, 1959-1972, FIS-222 (Supplement), August 1973, by National Economic Analysis Division.]

Liquid Petroleum Gas for Agriculture—Touchy Situation

One way to dry a grain crop—and lessen the risk of spoilage after harvest—is to leave it in the field to dry of its own accord.

But most farmers today can't afford to let nature run its course. The longer a matured crop stays in the field, the greater the losses from disease, pests, and bad weather. Even with normal weather the losses mount at the rate of $1\frac{1}{2}$ percent a week after the crop is mature.

The trend is to harvest earlier and dry the crops with artificial heat. The chief fuel to run the dryers is propane, one of the liquid petroleum gases (LPG).

Tight supplies of LPG raise the possibility that some grain producers and handlers won't be able to get LPG in the quantities needed this fall, particularly if the weather turns out to be abnormally cold and wet. And considering the currently low level of crop stocks, any lost production would translate quickly into higher retail food prices.

Big buyers. Farmers typically buy almost a fifth of the LPG sold in this country—including purchases for home and production uses. But the problem is not only the amount of LPG needed in agriculture but also when it is needed. Demand peaks in the September-December period, when farms use about half their annual consumption of LPG for farm production. That's also when the needs by homeowners begin to crest.

Farm production needs for 1973 are estimated by ERS at around 1.26 billion gallons. This is a little less than last year. However, the estimate assumes normal fall weather. A repeat of the wet fall of 1972 and the need for additional grain drying would lift requirements to around 1.41 billion gallons—about 12 percent over a normal 1973.

The 1.26 billion gallons compares with 1.19 billion in 1964 and 1.21 billion in 1971, the latest year for which official data are available. Much of the increase since 1971 results from more crop drying—especially of corn

and soybeans—and greater dependence of poultry producers on LPG for raising young stock.

LP in the Corn Belt. The impact of increased corn and soybean drying is greatest in the Corn Belt, where consumption is expected to be up a tenth from the 1971 level. Though that region's corn acreage is down 4 percent from 1971, more of the corn is expected to be dried. Also, acreage of soybeans is up 31 percent from 1971.

In the Corn Belt alone, a cold, wet fall would push LPG requirements to about 335 million gallons, 35 percent over the 249 million that would be used during normal conditions in 1973 and 48 percent over usage in 1971.

In the Lake States, where grain drying accounts for a significant but smaller portion of LPG than in the Corn Belt, LPG consumption is estimated at 84 million gallons for a normal 1973 or about 6 percent over 1971. Adverse weather would result in a 25-percent increase over the normal requirements or about 105 mil-

Propane Priorities

Agricultural users of LP gas have been designated as "priority customers" of propane under a mandatory allocation program proposed by the Administration in late August.

The priority customers are those using propane for agricultural production (such as tractor fuel, poultry and pig brooding, and crop drying); food processing; residential cooking and heating; mass transit vehicles; and buildings housing medical and nursing patients.

The effective dates of the proposed regulation are Sept. 1, 1973, through April 30, 1974. The regulation states that all propane suppliers and resellers must first provide the entire requirements of their priority customers before making other sales. Priority users unable to find a supplier may be assigned to one by the Office of Oil and Gas.

lion gallons. A rapidly growing use is for rearing young turkeys, mainly in Minnesota. Turkey numbers in the Lake States have shot up almost 30 percent since 1971.

LPG requirements for other farming regions—

In the Northern Plains, consumption is figured to be the same as in 1971—about 177 million gallons. This region, accounting for 14 percent of all LPG use on farms, is affected less by a wet fall, since most LPG (65 percent) is used in motors of equipment such as irrigation pumps and tractors.

The Southern Plains, with 23 percent of farm consumption, is estimated to use 296 million gallons this year, up nearly 10 percent from 1971. Enormous increases in crop acres in 1973—up 136 percent in the case of soybeans—have required more intensive use of LP tractors, the major LPG user. And there will be more grain to dry.

Pacific up a fifth. In the Pacific region, LPG demand is projected at about 44 million gallons, almost a fifth more than in 1971. Nearly all the gain comes from larger crop acreages. Like other western regions, most of the Pacific LPG in farming is used in motors.

The Northeast's consumption is placed at 31 million gallons for 1973, up about 3 percent from 1971, due mainly to small increases in chicken and turkey numbers and to expanded soybean acreage.

The remaining farming regions expect little change from 1971 levels. The estimate for the Appalachian region is for 81 million gallons; Southwest, 91 million; Delta States, 133 million; and Mountain, 79 million.

Is there enough LPG to meet agriculture's needs? Much depends on the supply situation of LPG, natural gas, and other petroleum products.

LPG is produced in natural gas processing plants (70 percent) and oil refineries (30 percent). No significant increase is looked for in LPG production from natural gas plants.

Production at oil refineries is expanding more rapidly, but in total LPG output is expected to rise only 1.7 percent this year. However, LPG demand is seen outracing new supplies, even with the prospect of larger imports from Canada, Venezuela, and Eastern Hemisphere countries.

Surging demand for LPG is due in part to antipollution restrictions on the use of high sulfur fuel which have caused many utility and industrial users to turn to natural gas or LPG. Secondly, and probably more important, natural gas shortages have caused many of its users to supplement with LPG, virtually a perfect

substitute for natural gas.

Complicating the situation is that pipelines are not designed to carry the requirements at peak times. Limited storage capacity in consuming areas creates a burden on the rest of the transportation system. Rail tank cars are not always available to move the gas, and many jumbo tank cars are tied up by other gas customers. Smaller tankers are less scarce, but their handling costs are much higher per gallon.

[Based on special material from Input and Finance Program, National Economic Analysis Division.]

Critical Shortage Seen In Fertilizer Supply

Farmers in this 1973/74 year face the first serious fertilizer shortage since World War II.

And they'd do best to order early, take early delivery, and test soil to use no more than indicated for desired yield, advises ERS's fertilizer economist.

ERS esimates that the supply of nitrogen fertilizer may fall as much as 1 million tons short of demand—both domestic and foreign—in 1973/74, and phosphate fertilizer

FARM INCOME STATISTICS:

Some of the most quoted—and misquoted—of all statistics are the U.S. Department of Agriculture's national farm income figures. USDA publishes regularly a comprehensive set of income estimates relating to agriculture. The major series, along with other important series from which they are derived, have been developed over more than a third of a century. Each series, whether major or minor, is designed for a specific purpose. For accurate results it should be used only in the way it was designed to be used. Unselective use is a common cause of error. Many figures may be vaguely reported as farm income — cash receipts, realized gross income, total net income, for example. Yet there are billions of dollars worth of difference between them. USDA's estimates center around two major concepts of farm income: One views agriculture as a business or an industry and measures income from the job of farming. The other views the people who live on farms and measures their income from both farm and nonfarm sources. The major series in each classification and their relationship to other series are shown here

[[[[[[[[[[[[[[[[[[[[
INCOME FROM FARMING, 1972 Billion I	Oollars
CASH RECEIPTS FROM FARM MARKETING Money received from sales of about 150 farm products.	#
GOVERNMENT PAYMENTS TO FARMERS Payments to farmers under farm	4.0
programs. Net price support loans are included with cash receipts above.	4
NONMONEY INCOME Includes home consumption of farm products and imputed rental value of farm dwellings.	4.2
REALIZED GROSS INCOME FROM FARMING Income from farming available for all purposes—farm operation, family living and investment.	68.9
PRODUCTION EXPENSES All cash spent to operate the farm business, plus certain non-cash items. Includes depreciation of equipment and other capital items rather than current purchases of these items.	49.2
REALIZED NET INCOME USDA's standard net income figure. The word "realized" indicates that the figure has not been adjusted for changes in in-	19.7
ventories. Represents return to operator for his labor and managment, the labor of his family and his invested capital.	4
NET CHANGE IN INVENTORIES Difference this year from last in quantities of each crop and livestock product held on farms, valued at average prices received by farmers during the year just ended.	0.6
TOTAL NET INCOME This figure is a component of national income figures of the Department of Commerce. It is published in the national income reports of that Department as "net income of farm proprietors."	20.3
PERSONAL INCOME OF FARM POPULATION, 1972 Billion I PERSONAL INCOME FROM FARM SOURCES:	Pollars
TOTAL NET INCOME FROM FARMING OF FARM RESIDENT OPERATORS This is the total net income of farm operators from farming minus the net	17.1
income received by farm operators who do not live on farms. FARM WAGES OF LABORERS LIVING ON FARMS Wages and other labor income for farmwork paid by farm operators out of their gross income	1.3
to workers living on farms. These wages are a production expense to farm operators, but a source of income to the farm population.	0.4
CONTRIBUTIONS OF FARM RESIDENT OPERATORS AND WORKERS TO SOCIAL INSURANCE	0.4
TOTAL PERSONAL INCOME OF FARM POPULATION FROM FARM SOURCES PERSONAL INCOME FROM NONFARM SOURCES: Includes wages, salaries,	18.1
and other labor income of farm residents from nonfarm jobs, rents and royalties, dividends, and interest, net income from nonfarm business and	15.9
professions, and transfer payments, such as unemployment compensation and social security.	
TOTAL DEPONDED INCOME OF FARM PORTUGUES FROM ALL COLUMNS	2/10

October 1973

(P₂O₅) may be 700,000 tons short of demand.

While some farmers found it difficult to obtain all the fertilizer they needed this fall, the situation is almost certain to deteriorate and supplies of nitrogen and phosphate will be short in the spring.

Behind the tight supply of nitrogen and phosphate fertilizers are a number of factors:

—Release of nearly 62 million acres of cropland that was diverted from production in 1972. About 25 million acres of this was planted to crops in 1973, and another 15 million acres will eventually be planted, resulting in increased fertilizer demand.

—Strong foreign demand for fertilizer. World demand for nitrogen and phosphate fertilizers has pushed export prices well above domestic ceiling prices, so that American fertilizer producers tend to export what they can.

Over the longer range, the capacity to produce phosphoric acid, used to make ammonium phosphate and concentrated superphosphate, should be adequate by 1975. Production capacity fell short several years ago, and producers announced plans to erect new plants or to expand established plants in order to meet increased needs. About half a million tons of this added annual capacity is or shortly will be in production. An additional 1 million tons annual capacity is scheduled for 1974 and 850,000 tons more in 1975.

The outlook for ammonia production, the source of most nitrogen fertilizers, is far less promising. The supply of ammonia depends upon the availability of natural gas used as feedstock for making ammonia. Domestic ammonia producers, for the past 3 years, have faced curtailments of progressively longer duration, and curtailment of production is likely to increase in the years ahead as gas supplies fall short of total demand for all purposes.

[Based on special material from John F. Gale, National Economic Analysis Division.]

Taxing Capital Gains At Time of Death Could Hurt Farmers

According to the U.S. Treasury Department, each year at least \$15 billion worth of assets changes hands without being subject to income tax.

Most of these assets are transferred to an heir when the owner dies, or else they come under the heading of gifts. And current law says the appreciated value of capital assets need not be taxed until they are actually sold.

This means capital gains on assets held until death may escape taxes entirely. In the case of gifts, the recipient is liable for the capital gain tax, but only when and if he sells the assets.

Now there's discussion of changing all this. Some advocates of change would, if they had their way, tax unrealized capital gains at the death of the owner and at the time of a gift.

For farmers, such a measure could compound what is already a severe liquidity problem. Since most farms have most of their capital tied up in land and buildings, the heirs to these estates—many of them family farms—often end up selling part of the property just to pay the transfer tax. Paying an additional tax on capital gain would make it all the more difficult to keep the farm intact.

Though the Internal Revenue Service does not report separate statistics for farms, ERS has estimated the taxes on capital gains by using current data on numbers of farm real estate and gift transfers, acres and value of transfers, and by projecting these trends into the future.

In 1972 there were 29,800 estate, inheritance, and gift transfers. If we assume transfers decline over time at about the same rate that total farm numbers decline, transfers would total 28,000 in 1974 and 15,500 in 1990. Currently, about 50 percent of the average farm real estate value is appreciation.

Assuming that land values appreciate beyond 1972 at 5 percent per

year and that all past appreciation is taxed, the increase in taxes would amount to \$111 million in 1974 and \$235 million in 1990. On an individual farm basis, these figures would average \$3,955 in 1974 and \$15,144 in 1990.

These figures seem small alongside the \$20 billion realized net farm income for 1972. But as a share of the \$1 billion in taxes sole proprietors paid on their farm income in 1972, the new taxes would represent an estimated 11 percent of the \$1 billion in 1974.

If just the appreciation after a given date, say 1973, were to be taxed at the death of the owner—a more likely approach than taxing all past appreciation—the increased tax outlays for death and gift transfers would be about \$8 million in 1974 and \$235 million in 1990.

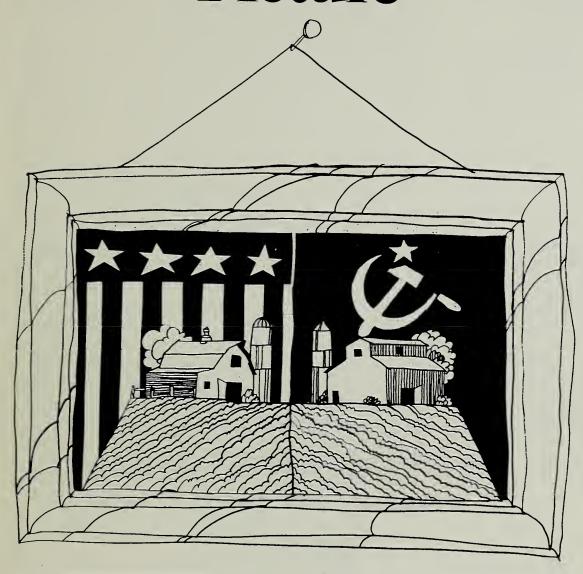
It's conceivable, though, that tax reform measures might exempt small estates from the tax on capital gain. Under one proposal a minimum basis of \$60,000 would be allowed. This would substantially reduce the capital gain tax levy for farm estates, since the cost basis for most farms is less than \$60,000.

Farms with less than \$60,000 real estate transfer value would pay no capital gain tax. All others whose actual cost basis was below \$60,000 would have reduced capital gain tax levies. For example, with a \$60,000 minimum basis a decedent with property originally costing him \$40,000 and worth \$80,000 at his death would be taxed only on \$20,000.

A provision to tax only appreciation occurring after a given date generally overshadows a provision to provide a \$60,000 minimum basis, since the increase in value after a given date is generally less than the difference between market value and the minimum basis.

[Based on "Effect on Farms If Unrealized Capital Gains Were Taxed at Death and at Time of Gift," by Virden L. Harrison, National Economic Analysis Division, presented at American Agricultural Economics Association meeting, August 1973, Edmonton, Canada.]

U.S./U.S.S.R. Farm Picture



More favored with agricultural resources than the U.S.S.R., the U.S. uses a lot less land and labor, but substantially more capital to achieve higher farm output.

The wide gap between Soviet and American agriculture has narrowed somewhat—but not closed.

Latest estimates show that the dollar value of Soviet farm output has edged up to about four-fifths the U.S. total. Reasons for the lingering disparity are numerous but most often cited is the U.S. edge in agricultural resources.

Land resources and land use are a case in point. Though the U.S.S.R. has 40-45 percent more cultivated land than the U.S., location and weather cancel out this advantage.

Only about 1 percent of all arable land in the Soviet Union receives at least 28 inches of rainfall per year—compared with 60 percent of the U.S. And up to two-thirds of Soviet farmland lies in regions where temperatures average 41°F and below. Thus, growing seasons and frost-free periods are considerably shorter than in most of the U.S.

Nearly all Soviet land is socialized

and operated under a central state plan. Early this year there were 31,600 collective farms averaging about 15,500 acres of agricultural land and about half as many, but even larger state farms averaging just under 50,000 acres.

In contrast, the U.S. has roughly 2.8 million farms—most of them family operated—averaging a little less than 400 acres.

While total planted area in the U.S.S.R. is split about equally between state and collective farms, around 3 percent is made up of small—usually half an acre or less—"private" plots, primarily worked by collective farm members and state farm workers in their spare time.

As for labor, roughly a third of the Soviet Union's 135-million-member labor force is employed in agriculture. From a U.S. labor force of about 84 million, only 3.3 million—around 4 percent—are counted as farmworkers. But the U.S. has far more nonfarm employees in agriculture-related work.

While the U.S. uses a lot less land and labor, it has invested substantially more capital to achieve higher output. And due to the differences in natural resources, technology, and farm organization, productivity of U.S. farmworkers far outstrips that of Soviet workers.

In fact, a recent study determined that each farmworker in the U.S.S.R. feeds only 7 people while his American counterpart feeds close to 50.

Seeking to correct this imbalance, the Soviet government has taken several steps to raise the level of farm inputs and upgrade incentives for the rural labor force. Included are improved credit for farmers; higher prices for farm products; stepped-up supplies of fertilizers, pesticides, and machinery; additional building complexes; and expanded irrigation and drainage projects.

Charts on the pages to follow illustrate how certain areas of the Soviet farm system are faring in relation to the U.S. In several, 5-year averages were used to minimize the effects of weather on comparisons.

SOVIET GRAIN AREA is about double that of the U.S. A key factor: the U.S. until recently has held land out of production in an effort to match supply and demand. The U.S.S.R., meantime, has pursued a grain area policy aimed at maximizing output.

Grains grown in the two nations vary sharply by type. Food grains—wheat, rye, buckwheat, and rice—take up two-thirds of total Soviet grain area, against only one-third in the U.S. Wheat dominates 55 percent of U.S.S.R. grain area, while corn occupies 38 percent of all U.S. land in grains.

Major Soviet grain areas lie further to the north than those in the U.S.—a fact that's reflected in the types of wheat produced. Only about a quarter of all Soviet wheat area is planted to winter wheat —versus around three-quarters in the U.S. But Soviet winter wheat area is still larger. Producing this crop in the northerly reaches of the Soviet Union is risky business since winterkill is a recurring threat.

Total grain production in the U.S. is estimated about a fifth larger than Soviet output. The actual gap is even wider, since the U.S.S.R. reports data in terms of "bunker weight"—the weight of grain as it comes from combines. "Bunker weight" isn't a true measure of usable grain since it includes amounts of moisture and foreign matter that vary from year to year with harvest conditions.

How can the U.S. produce so much more grain when planted area in the U.S.S.R. is so much larger? Mainly because high-yielding corn makes up more than half the U.S. crop while relatively low-yielding wheat—mostly spring wheat—is the dominant crop in the U.S.S.R.

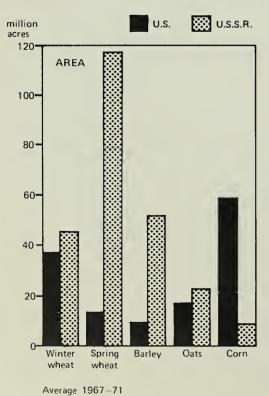
Compared with the U.S., the Soviet Union turns out over twice as much wheat (an average of 3.3 billion bushels versus 1.5 billion bushels during 1967-71), almost 15 times as much rye, and more than three times the barley. On the other hand, U.S. corn crops average 12 times the Soviet tally and U.S. rice three times as much. Oat production runs about the same in both nations.

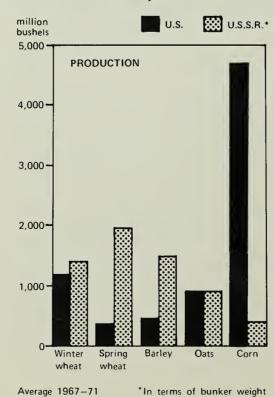
The U.S. clearly commands the lead in feed grains. These account for more than three-fourths the U.S. grain crop, versus just over a third of the Soviet crop. However, both countries feed sizable shares of their food grains to livestock.

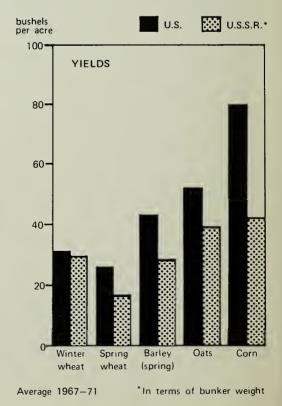
Variability in grain production during 1967–71 was about the same in both countries. During that period, the 1970 corn blight and reaction to it the following year were important factors in the amount of variation in the U.S. grain crop.

Soviet grain yields—even in "bunker weight" terms—average out to less than half those of the U.S. Varying grain types, technology, climate conditions, and economic systems are responsible. This overall comparison reflects the relative importance of high-yielding U.S. corn versus Soviet wheat. Most U.S.S.R. grains yield between two-thirds and three-fourths of U.S. crops. However, Soviet winter wheat yields come close to those in the U.S., while Soviet corn yields are only about half as high.

Grains: The Soviets Plant Twice the Area, but Harvest a Fifth Less Than the U.S.







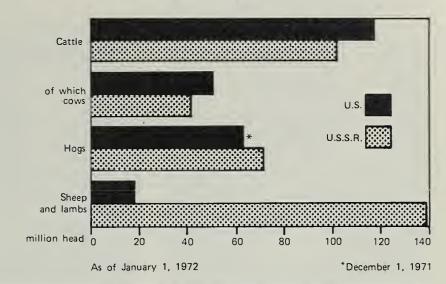
10 The Farm Index

The U.S. and U.S.S.R. both lay claim to large livestock herds. While the U.S. cattle count is about 10 percent above the Soviet figure, Soviet hogs outnumber U.S. hogs by nearly the same proportion.

The U.S. cow inventory rounds out at 51 million head—roughly a fourth larger than the Soviet total. About 75 percent of the U.S. herd serve as range or stock cows for beef production, and the remainder are dairy cows.

Over the past decade, total Soviet livestock numbers have advanced slightly more than in the U.S. U.S.S.R. cattle numbers—both cows and other cattle—outpaced U.S. growth. U.S.S.R. sheep and lamb numbers increased slightly while those in the U.S. dropped by more than a third. The U.S., meantime, posted a slightly higher hog increase.

Livestock Numbers: Substantial in Both Nations

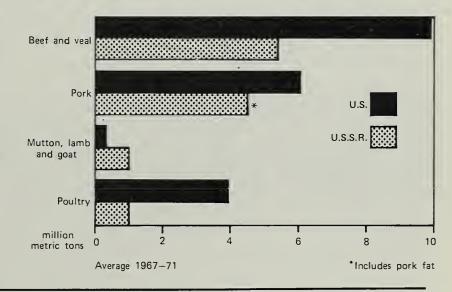


Soviet meat and egg production stands at a little over half the U.S. figure. Output of meat relative to livestock numbers in the U.S.S.R. demonstrates the higher productivity of U.S. animals. The amount of beef and veal produced per head of cattle—as well as pork per hog—comes to only about two-thirds of the U.S. rate.

And though the Soviet Union has seven times the sheep and lambs, wool and mutton output is only three to four times as much as the U.S.

The U.S.S.R. produces about $1\frac{1}{2}$ times as much milk as the U.S.—and nearly double the butter. Yields per cow, however, are only half the U.S. rate. This is because most of the cows milked in the U.S.S.R. are dual purpose breeds while nearly all cows milked in the U.S. are dairy breeds.

Livestock Products: Nearly 2 to 1 in Favor of the U.S.



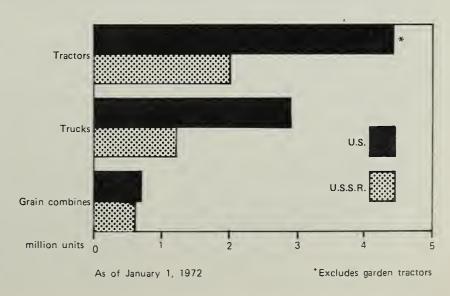
Despite considerable gains over the past several years, the U.S.S.R. still lags well behind the U.S. in farm mechanization. The Soviets claim less than half as many tractors and trucks on farms but about 90 percent as many grain combines.

As of January 1, 1972, tractors (excluding garden tractors) on U.S. farms totaled nearly $4\frac{1}{2}$ million, versus just over 2 million in the Soviet Union. But with 640,000 grain combines, the Soviets weren't far behind the U.S tally of 720,000.

The comparison is less favorable in terms of area per machine. The U.S.S.R. reports only one tractor for every 250 acres of cropland. In the U.S., the figure is one tractor for each 66 acres.

[Based on manuscript entitled Comparing Agriculture in the United States and the Soviet Union, by Fletcher Pope, Jr., Valentine Zabijaka, and William Ragsdale, Foreign Demand and Competition Division.]

Farm Equipment: Almost Equal in Combines





BORDER WAT







Top (l. to r.), Federal quarantine inspector checks foreign packages for unauthorized plant material; official at Kennedy International Airport examines bouquet of cut flowers for insects; in the early years of quarantine laws, inspector looks for boll weevils at Arizona border. Left, fruits and vegetables—intercepted on an international flight—are cut open in search of insects in various stages of development.

Foreign plant pests that have crept into the U.S. account for half the damages to crop and horticultural products caused by insects. Here, a review of steps taken to stem the influx.

Think about ecology and chances are your mind will turn to nature's panorama, anything from an idyllic trout stream in the Rockies to Alaskan tundra.

Less likely, but still possible, you may conjure up the gypsy moth,

the remorseless predator of trees that is currently feasting on America's forestlands.

If the second example is your frame of reference, you probably already realize that the fight for America's environment begins at the border.

The gypsy moth immigrated here before the days of quarantines and inspection laws. Introduced in 1869 by a Harvard naturalist for scientific experiments, it slipped its cage and made for the woods. Last year alone it damaged or destroyed more than a

million acres of trees, mostly in New England, and it is expanding its territory despite all efforts at extermination.

To stop invasions by pests like the gypsy moth—and also to curb the spread of plant diseases from abroad—the Federal Government enacted the Plant Quarantine Act of 1912. Most laymen regard the measure as the start of U.S. efforts to control overseas threats to the country's flora.

But a recent ERS review of quarantine and inspection history—

CH ON PLANT PESTS



done at the request of USDA's Animal and Plant Health Inspection Service—points out that attempts to stem the influx go back before 1912.

Making a meal. In the 19th century, for example, a sap-sucking Asiatic insect called the San Jose scale started making a meal out of California's fruit. By way of response, the California legislature initiated its system of plant inspection at ports of entry into the State.

Somewhat later, in the mid-1890's, Massachusetts found itself unable to get Federal assistance in its campaign to eliminate the gypsy moth. So it proceeded with an independent quarantine plan.

Yet these measures did not meet the need for national controls. What's more, within a few years foreign countries started taking advantage of the lax U.S. regulations to dump their unsalable stock, at the same time developing protection laws of their own.

Inspection demanded. By the end of the century, the ERS report says, nurserymen and USDA representatives plus state horticultural and agricultural societies were all demanding that the Federal Government deal with the quarantine problem by instituting a system of interstate and foreign inspection.

The Government's first attempt to control the bug menace was ineffective—the Insect Pest Act of 1902

that was never enforced. A year later, however, USDA began inspecting its own imports for contamination, and in 1909, the Department's Bureau of Entomology initiated a voluntary inspection program among importers.

Then came a bit of international embarrassment that helped focus public attention on the pest threat.

Moth-bearing gift. On January 7, 1910, 2,000 Japanese cherry trees arrived in Washington, a gift from the Mayor of Tokyo to President Taft's wife to beautify the District of Columbia. The trees turned out to be infested with fruit moths, however, and the entire shipment had to be burned.

The Japanese were miffed by the incident, but they responded to the conciliatory diplomacy that followed. Two years later, in 1912, the mayor sent another 2,000 trees which today are one of Washington's biggest springtime tourist attractions. The following August, President Taft signed the Plant Quarantine Act.

The new law created a Federal Horticultural Board to administer the program. USDA worked closely with the Post Office Department and the Treasury Department's Customs officers. Cooperating State officials did much of the actual inspection.

The system had problems, caused mainly by the widely varying interpretations that State inspectors could attach to the regulations.

Nevertheless, the ERS report notes, the 1912 Act marked a new approach to the quarantine problem and at last gave the Federal Government an active role to play.

Coordinating efforts. Subsequent regulations have expanded and refined the quarantine system. USDA and State representatives established the National Plant Board in 1925 as a policy advisory group coordinating Federal-State activities.

Relations with other countries fall under the provisions of the International Plant Protection Convention drawn up in 1951. Today, in fact, much of the commercial trade in plant and nursery materials is inspected abroad by U.S. personnel or foreign representatives.

The job of keeping out plant diseases and unwanted insects has been complicated by several developments since World War II, according to the ERS report.

First, the postwar emphasis on eliminating trade barriers has increased pressures to reduce inspection and quarantine delays.

Second, the speed and volume of modern travel have removed some of



USDA officials in a Massachusetts forest that was denuded by gypsy moth caterpillars.

the built-in protections that went with slower movement by trains, ships, and horse-drawn vehicles. Large scale troop transfers during the Korean and Vietnam wars, the burgeoning rosters of people vacationing abroad, and the opening of the St. Lawrence Seaway in the 1950's bringing ocean vessels into the heart of the continent have all created difficulties.

Finally, breakthroughs in transportation technology have put still more burdens on inspection officers. Easily the most remarkable of these advances is containerization, a packing technique that transforms cargo into units all with the same size and shape. Its advantages are so great

that some observers rank it in importance with the transition from sails to steam.

Its disadvantages, seen from the quarantine angle, are that it makes cargo hard to get at and it carries foreign goods into the heart of the country since the containers are usually transferred directly from shipboard or aircraft to trucks.

APHIS sets standards. Setting regulations to cope with these and other problems is the job of USDA's Animal and Plant Health Inspection Service (APHIS) which was established in 1972. One of APHIS's distant ancestors was the old Federal Horticultural Board created by the 1912 Quarantine Act.

The Treasury Department's Customs Service bears the brunt of day-to-day inspections.

At present, all hand baggage arriving via international carriers and somewhere between 40 and 60 percent of the checked baggage are subject to inspection. The strategy on hold baggage is "selective inspections." That is, on so-called "garbage runs"—flights that customarily contain agricultural contraband—and on high risk runs where drugs are likely to be present, all the checked baggage goes through inspection.

Despite every precaution, unwanted insects manage to creep in. Over the years, about 1,115 species have set up residence in the U.S. Of those, only 212 rank as important pests. But every year that number accounts for half the crop and horticultural products lost to insects.

Scientists estimate there are perhaps $2\frac{1}{2}$ million insect species around the world that are not present in the U.S. Six thousand of them are known to be doing damage in foreign areas that are similar ecologically to parts of this country.

[Based on manuscript by Vivian D. Wiser, National Economic Analysis Division, entitled Protecting American Agriculture: Foreign Inspection and Quarantine, and on report by Russell C. McGregor to Francis J. Mulhern, Administrator, Animal and Plant Health Inspection Service, entitled "The Emigrant Pests."]



Labrador, 1912—Clarence Birdseye arrives to try his luck at fur trading.

Birdseye was a naturalist and author who wrote about wildflowers, western birds, and mammals and whose philosophy was to "Go around asking a lot of damfool questions and taking chances." He was born in Brooklyn, New York, in 1886 and educated at Amherst College in Massachusetts.

In Labrador his inquisitiveness got him interested in the way Eskimos preserved their food by freezing.

It was already known in warmer climates that freezing would keep food from spoiling. But the thawed product was usually flavorless mush. Slow freezing took up to 18 hours and built up ice crystals large enough to break down the cell walls in food. Birdseye thought that fast freezing, such as occurred naturally in Labrador's cold climate, would preserve freshness.

He began his experiments after World War I with \$7 worth of

brine, ice, and an electric fan. In 1923, he managed to quickfreeze several portions of rabbit meat and some fish fillets in candy boxes.

Risking everything he owned, Birdseye set up a frozen seafood company.

He sold the business and patents for \$22 million to the Postum Company in 1929, the same year that Postum changed its name to the General Foods Corporation.

For years after, Birdseye was associated with General Foods. By 1934, the company's Birds Eye-Snider Division was doing 80 percent of the quickfrozen business.

Yet Birdseye didn't restrict his talents entirely to food. At his death in 1956 he held over 250 U.S. and foreign patents. Among his inventions were a recoilless harpoon gun and a method for converting sugarcane waste into paper pulp. Today, however, he is best remembered as the father of the frozen food industry.

[Based on special material by the Agricultural History Group.]

Population increases are certain to drive up the number of cigarettes smoked in 1985, but total tobacco use could fall off with less tobacco used per cigarette.

More smokers, smoking less tobacco.

That's the story from one of ERS's tobacco experts looking at the year 1985.

He sees a 20-percent increase in the number of cigarettes smoked by 1985, with that increase coming almost entirely from new smokers. Per capita cigarette use isn't expected to change much, but the big smoking group—ages 25 to 44—is expected to grow by 40 percent by 1985.

Meanwhile, cigarette manufacturers may cut back tobacco per cigarette enough to bring overall tobacco use below current levels.

In projecting cigarette use at around 200 packs per person, tobacco experts assume that antismoking activity will remain at moderate levels over the next 12 years.

While use of tobacco has come under fire for centuries, antismoking pressure really crested in the late sixties with a massive television campaign. In turn, per capita consumption plummeted from 214 packs in 1967 to 198 in 1970.

And though cigarette use rebounded to over 200 packs per per-



son by 1971, the late sixties left a smoking population with sharply altered attitudes and opinions. For instance, more than 60 percent of smokers surveyed in 1970 said they had tried to quit—against less than 40 percent in 1966.

If current attitudes mellow, or if the cigarette industry starts to market a "safer" cigarette that's lower in tar and nicotine or contains a new smoking material, per capita consumption could notch up considerably by 1985.

One sure way to cut down on tar and nicotine is to pack less tobacco in each cigarette—exactly what the industry is doing.

Since the mid-1950's tobacco leaf content per cigarette has been reduced nearly 2 percent per year. Reason, of course, is the rise of filter cigarettes, which have shorter tobacco columns than most nonfilters.

Also, manufacturers began making greater use of leaf midribs and producing a slimmer cigarette. Thus while cigarette output rose about 40 percent in 2 decades, tobacco use stayed about the same.

Last year, filter tips accounted for nearly 9 out of 10 cigarettes produced, and by 1985, will probably account for all. This shift—coupled with various leaf expansion processes—would allow manufacturers to cut tobacco leaf use about 10 percent per cigarette.

Leaf use could be pared further with the development of synthetic tobaccos. Experimental cigarettes made entirely from synthetics, as well as those containing half synthetics and half natural tobaccos, are being manufactured and test-marketed. (continued)

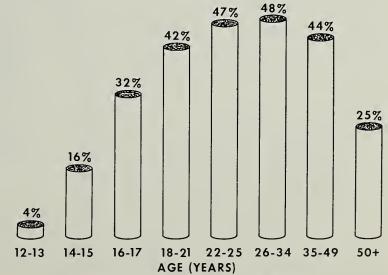
TOBACCO USE, 1964 AND 1970

Men and Women, 17 and Over

FEMALE 32% CIGARETTES ... 27% 2% CIGARS..... 21% .1% **......19%** .3% PIPES..... 18% .1% .5% CHEWING TOBACCO 1970

OATA FROM PUBLIC HEALTH SERVICE BASED ON SURVEYS OF CIVILIAN NON-INSTITUTIONAL POPULATION

CIGARETTE SMOKING IN 1972



SOURCE. NATIONAL COMMISSION ON MARIHUANA AND ORUG ABUSE

October 1973 15

At this point, cigarettes with 10-25 percent synthetic tobacco seem more likely in the future as manufacturers try to cut costs, extend tobacco supplies, and reduce tar content.

Such developments could lower leaf content per 1,000 cigarettes as much as a third from the current 2.15-pound level.

The possibility of one-third less tobacco in a low-tar, low-nicotine cigarette might trigger some recovery in per capita cigarette use—perhaps even to the 1963 peak of 217 packs.

But with the one-third cutback, the cigarette industry would need about an eighth less leaf tobacco in 1985. This could lower overall tobacco requirements by some 150 million pounds from the amount used last year.

If, on the other hand, leaf content per cigarette is not sharply reduced and per capita consumption holds at the projected 200-pack level, tobacco required for cigarettes could rise 9 percent from the 1,320 million pounds used last year.

Tobacco for cigars and other products might increase slightly by 1985, due mainly to an assumed recovery in exports of bulk smoking tobacco, which plunged nearly a third last year. A semi-processed mixture of flue-cured and burley tobacco used for foreign cigarette manufacture, bulk smoking tobacco is counted in domestic disappearance data.

Cigars, meantime, account for 10 percent of domestic tobacco use—versus about 80 percent for cigarettes. Last year, Americans smoked the fewest cigars per capita since 1950.

By 1985, consumption of large cigars will probably do well to meet the 7-billion tally of 1972/73. Use of small cigars (cigarette size) appears to be stabilizing at around 5 billion per year.

Per capita use of chewing tobacco also looks to be leveling off, while use of snuff and smoking tobacco has been slipping about 2 percent per year. Nevertheless, a 10-percent gain in total consumption of these "other" tobacco items can be expected for 1985.

[Based on speech entitled "Tobacco and Tobacco Products Consumption for 1985," given at the 25th National Tobacco Workers Conference on August 9, 1973, in Hamilton, Ontario, Canada, by Robert H. Miller, Commodity Economics Division.]

Home Meals Take Biggest Portion Of Farm Food Dollar

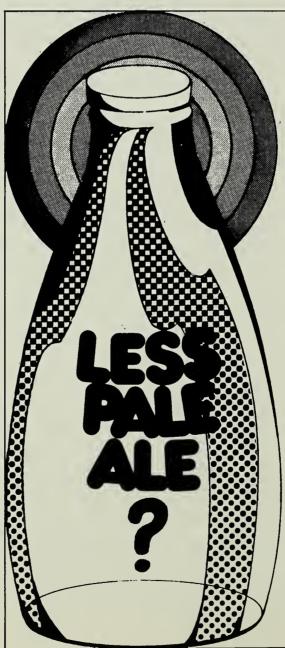
Of the more than \$116 billion consumers spent for farm food last year, 70 cents out of every dollar was for food they ate at home.

The rest bought them food in such a variety of places as restaurants, schools, and hospitals. Over the past 10 years, consumers have spent proportionately more of their food dollar eating away from home.

Most of this eating out—nearly 80 percent—is in such public eating places as restaurants, cafeterias, and snack bars that operate primarily for profit. The rest is in institutions, including schools, colleges, hospitals, and nursing homes.

Up until the last 2 years, institutions have grown at a faster rate than public eating places in the amount spent for food. However, decreased school enrollment and a decline in hospital patients have slowed the growth rate.

[Based on information by Terry Crawford, National Economic Analysis Division, in *Marketing and Transportation Situation* MTS-186, August 1973.]



IF THE BEER YOU DRINK is a little stronger in color these days, it could be because there's less rice in it

According to a new ERS study, there's been a sharp decline in the amount of U.S.-grown rice going into the beer brewing process. The amount of rice sold to beer manufacturers declined almost 55 million pounds between 1969/70 and 1971/72.

Rice is used in beer manufacture as a carbohydrate. It provides additional fermentable material, and is used especially for the palest beers.

The main reason for the decrease is a smaller supply of the broken kernels used for brewing. More of the rice is being exported, so less is available here at home.

But beer drinkers need not lose heart. Imported rice is partially offsetting the domestic decline. And acceptable substitutes for rice include corn, unmalted barley, or tapioca—unless, of course, only the very palest ale will do.

[Based on "Market Patterns for U.S. Rice, 1971-72" by J. C. Eiland and Theo F. Moriak, ERS-528, and special material.]

2 Million Households Had Farm Wageworkers In 1971, Study Finds

About 1 out of every 33 households in the Nation had at least one member who did farm wagework in 1971, according to a study by USDA's Rural Development Service (RDS).

Households with farmworkers numbered 2,012,000 and had 9,108,000 persons. Of these, 2,550,000—or 29 percent—performed farm wagework. This includes full-time and part-time farm wageworkers—men, women, and children.

On the average, individual farm wageworkers earned \$882 from farmwork and \$698 from nonfarmwork.

From all sources, the median or midpoint income for farm wage-worker households was \$5,712, slightly more than half that for all U.S. households (\$10,285). The annual earnings of individual farm wageworkers accounted for about 28 percent of the \$5,712.

However, the contribution of farm earnings to total household income varied widely by type of worker.

Year-round farmworkers, those working 250 or more days, earned about \$3,900 from farmwork—or 76 percent of the household's median income of this group.

Regular workers, those working 150 to 249 days, earned about \$2,-880—or 70 percent of the household's income.

The next highest proportion was earned by migratory farmworkers, those who traveled across county lines and stayed away from home at least overnight to do farmwork for cash wages. Farmwork accounted for \$1,630, or 27 percent of the family median income.

Farmwork's contribution was smallest for seasonal workers—those working less than 150 days—who earned \$1,222, or 19 percent of household income.

The RDS study also noted a number of changes in the characteristics of the farm wagework force since 1965, when a similar survey was conducted.

The proportion of migratory workers dropped from 15 percent of the total farm work force in 1965 (3.1 million) to 7 percent in 1971 (2.6 million).

The proportion of male workers and those under 25 increased. Approximately 50 percent of both migratory and nonmigratory farmworkers were under 25 in 1965, compared with 57 percent in 1971. The percentage of males in the migratory work force went from 72 percent in 1965 to 83 percent in 1971, and in the nonmigratory force, from 70 percent to 76 percent.

In both 1965 and 1971, the farm wagework force was predominantly white, but there has been a tendency for blacks and other minorities to move out of the farm labor force.

[Based on manuscript by Gene A. Rowe and Leslie Whitener Smith, Rural Development Service, entitled Income of Farm Wageworker Households of 1971.]

Just Released

Want some handy information about such issues as "Are we running out of farmland?"

USDA's Economic Research Service has just released a 16page publication entitled "Our Land and Water Resources."

In it are facts and projections on the use of farmland, on the use of water—of which agriculture is the biggest consumer, and on important land issues affecting rural acreage, including who owns the Nation's lands and just what controls we have over the way land is used . . . or misused.

"Our Land and Water Resources" is reprinted from a series of articles which appeared in *The Farm Index* earlier this year and is based on a comprehensive land and water use study by ERS's Natural Resource Economics Divisions.

For free copies of the publication, write *The Farm Index*, Economic Research Service, U.S. Department of Agriculture, Room 1459-South Building, Washington, D.C. 20250. Ask for ERS-530.

Sanitary Landfills Offer Land Use Possibilities

Ski slopes on the prairie . . . farmland in the city . . . campgrounds at an old dump site.

And all with their "roots" in a sanitary landfill.

These and other uses for land, once a sanitary landfill operation has been completed, are noted in a special ERS study.

As an alternative to open dumps, many of which are being closed in light of antipollution action, sanitary landfill costs run a fourth to a third less than other solid waste disposal methods, according to the study. And once the operation is completed, the land can be used for recreation or even for pasture and crops.

Today, about 80 percent of the 190 million tons of solid wastes collected yearly eventually finds its way to an open dump. About 10 percent is incinerated, requiring some further disposal, and the remainder goes primarily to sanitary landfills.

A sanitary landfill is an engineering project, requiring careful site selection, compaction, suitable soil cover, and watching over for drainage, erosion, water pollution, and gas movements. Trash is spread and compacted at the landfill site, and then at least once, at the end of the day, it is covered with soil to keep it "sanitary."

In some areas, such as Virginia Beach, Va., where the water table is high, these sanitary landfill operations are mounded. Other sites take advantage of a ravine that needs filling, or an old strip mine.

Whether or not buildings can be safely constructed over these sites remains to be tested. It has been done in the case of rambling onestory buildings and airport runways. Generally, though, because of settlement and gases generated by decomposition, building is avoided on sites previously used as a sanitary landfill.

[Based on special material by Denise Bledsoe, Natural Resource Economics Division, entitled Sanitary Landfills as a Land Use.]

WASTE NOT, WAS



To meet rising protein demand, experts say we'll have to make efficient use of our resources, particularly by putting the lid on wasteful feeding practices.

The U.S. has just begun to harvest its biggest soybean crop ever.

It will be roundly welcomed by livestock feeders, who earlier this summer found that protein feed supplies—for which soybeans are a prime source—had become extremely scarce.

Global shortage. The short protein inventory wasn't confined to the U.S., however, for protein sources were in tight supply around the world. Experts fear this situation could worsen in the future as demand mounts. Demand in this case springs from two sources: affluence and population increase.

Rising affluence in many indus-

trialized nations has driven consumer demand for animal protein—particularly beef—beyond the limits of domestic production. In turn, these nations are exerting heavy pressure on international markets not only for beef, but for feed grains, soybeans, and other protein feed sources to boost domestic livestock output.

The world market for protein feeds received an especially big jolt last

year with the disastrous anchovy catch in Peru. That country normally supplies about half the world's fishmeal requirements.

Disappearance of anchovies from Peru's coastal waters was at first shrugged off as a recurring sea change, but there's mounting concern that overfishing may have depleted the breeding stock. If so, protein feed markets will feel the pinch for some time to come.



Population, meantime, is still the key to whether or not the world will be wanting in proteins. Demographers now expect the earth's population to double over the next 10 years.

Efficiency needed. And since it takes protein to produce more protein, economists say we'll have to use our resources in the most efficient way possible. In particular, we must avoid wasteful feeding practices, as our livestock—not very efficient protein producers to begin with—require vast amounts of protein that might otherwise be consumed by humans.

A step in this direction would be to determine protein quality in our feed supplies. This measures a protein's amino acid content and its makeup by specific amino acids. Some 10-12 amino acids—often referred to as the "building blocks" in protein—are essential to life, with four being

more "critical" than the others.

Determination of what's "critical" and what's "essential" also depends on the kind of animal being fed. Ruminant animals like cows, horses, and sheep can synthesize proteins in their own digestive systems, and therefore thrive on large amounts of roughage and lower-quality protein concentrates.

But swine and poultry fed the same diet would not make efficient gains and would probably die from protein deficiencies. Their feeds must be high in critical amino acids.

Traditionally, we've relied on a crude protein count to tell us the amount of protein in a given feed. From this we determine digestible protein—the amount of protein that can be used in the digestive system.

Quality counts. Neither measure, however, indicates the quality of a protein in terms of vital amino acid content. Thus, many feed grains with high levels of crude and digestible protein can be deficient in certain critical amino acids and therefore lack protein quality.

For example, numerous types of hybrid corn contain as much crude protein as single-cross high lysine corn. But lack of certain critical amino acids in the protein of most hybrids lowers their protein quality and makes them an inferior source of protein feed.

Feed experts therefore recognize a need to value protein feeds on a combined basis that measures both the quantity of digestible protein and the quality factors of amino acids.

For instance, soybean meal may be

high in digestible protein (33 percent) but may fall short in methionine (.6 percent) compared with fishmeal herring with 2 percent methionine.

By itself soybean meal makes excellent rations for most ruminant animals. But not for poultry, since soybean meal is deficient in methionine—an amino acid that's critical for poultry.

Broader assessment. Nutritionists have already determined the feeding values of the various protein sources. But we've yet to use this information to assess overall supply-demand situations on a combined quality-quantity basis.

Researchers therefore propose to calibrate amino acid supply-demand balances, measuring available protein supplies by the quantity of specific essential amino acids. Each class of livestock would then be assigned its respective amino acid requirement, in much the same way total digestible protein requirements were determined.

At this point, livestock feeders will be better able to match protein quality needs with the available protein source having the most appropriate amino acid content.

Such dovetailing of supply and demand for essential amino acids would not only curb wasteful feeding practices, but would also assure that feeding is at levels that will provide optimal growth and protein output for human diets.

[Based on special material provided by George Allen, National Economic Analysis Division.]

Easy-to-Prepare Makes a Winner Out of Turkey Roasts and Rolls

No doubt Americans will eat a lot more turkey in 1985—but without lengthy roasting, repeated basting, and tedious hours in the kitchen.

The more convenient further processed products are expected to capture almost all the gain in turkey consumption—now seen up a fourth per person over the next 15 years.

Turkey rolls and roasts will probably head the list. They are made from deboned turkey meat—usually breast or thigh meat, or some combination of the two.

Right now, consumption of turkey rolls and roasts amounts to only about a pound per person. But that's 40 percent of all further processed turkey products—pot pies, frozen dinners, vacuum-packed sliced turkey, etc.—and 13 percent of all turkey eaten in the U.S. Per capita use of rolls and roasts is expected to double by 1985, pushing total consumption to around 700 million pounds.

More than twentyfold increase. Production of these two items already makes up one of the fastest growing sectors of the poultry industry. Output zoomed from under 8 million pounds in the early 1960's to more than 200 million in 1971. And the wholesale value of these products now stands at more than \$200 million per year.

Turkey roasts first hit the commercial market in the early sixties and were an overnight success. Rolls, on the other hand, made their market debut well before the sixties, but were slower to catch on with consumers. Turkey rolls have remained predominantly an institutional product, favored for convenience in maintaining portion control. Sales of turkey rolls in 1971 were estimated around \$50 million, versus \$150 million for turkey roasts.

Turkeys have emerged as the most important class of poultry used in further processing. In 1971, plants turned out 560 million pounds of turkey—close to 40 percent of all fur-

ther processed poultry products.

Flocking to processors. In addition, a mounting share of the turkey flock now goes for processing. By 1971, processors took 34 percent of the Nation's turkeys, up from only 8 percent a decade earlier.

Well over 350 plants across the country manufacture further processed turkey products—versus 225 in 1963/64. However, less than 100 specialize in turkey rolls, roasts, and related products.

Plants are most numerous in the North Atlantic States, though output is far greater in the Midwest and the South. Over half of our further processed turkey originates in plants in the East North Central and West North Central regions. At the doorstep of these plants are major turkey producing areas of Minnesota, Mis-

How About Pop?

New Yorkers call it a "soda," and in Boston, it's a "tonic."

But most of us call it a soft drink.

By any name, the industry behind it quenched a big thirst in the U.S. last year.

The average American downed more than a glass a day—406 eight-ounce glasses to be exact—a full gallon more than a year earlier.

Even so, the gain was only 4 percent compared with 7 percent in 1971. A cool, wet summer across most of the Nation is blamed.

The calorie watchers amongst us also showed a gain, with low-calorie soft drinks taking a 9-percent share of total soft drinks consumed compared with 7 percent a year earlier.

The beverage industry makes its mark on the sugar market, though, taking more than 22 percent of sugar deliveries each year. It's second only to consumer-size packages as a market for sugar.

[Based on National Food Situation, NFS-145, August 1973.]

souri, Iowa, Indiana, Ohio, and Wisconsin.

Many of the Nation's plants producing turkey products are small, specialized operations that sell mainly to local markets. Larger plants are likely to sell regionally or nationally.

Economies of scale. Substantial economies of scale exist in producing such products. Hence, production costs can be lowered by expanding plant size and/or running plants nearer to full capacity.

Using a set of model plants, an ERS study found that average production costs ran from about 91 cents per pound in the smallest plants producing 243,000 pounds per year to 75 cents per pound for the largest plant with an annual capacity of 4.8 million pounds.

While seasonality of turkey production is a barrier to operating at full capacity the year-round, plants producing rolls and roasts can surmount this problem by dipping into stocks of frozen birds carried over from the previous season.

The savings gained from operating at full capacity, however, will be tempered by plant location, extent of mechanization, wage rates, number of products, and numerous other factors.

Improvements on the way. Meantime, improvements in product quality and more efficient processing techniques are being developed. These will lower plant and marketing costs and should ultimately help lift consumption.

For example, the expensive and time-consuming hand boning operations that were prevalent in the sixties will eventually give way to total mechanization. Moreover, retail marketing margins have fallen off somewhat in recent years and may retreat further.

[Based on manuscript entitled Turkey Rolls and Roasts: Cost, Prices, and Consumption, by Harold B. Jones, Jr., and George B. Rogers, Commodity Economics Division.]

Average American Spent \$371 on Marketing Bill For Farm Foods in 1972

Americans spent \$371 apiece last year to move the food they bought from farm to market.

In all, consumers paid \$77.2 billion in 1972 for the bill for marketing U.S. farm food products. This "bill" is actually the total amount they spend on farm foods minus the farm value of the food.

The bill was up \$1.8 billion from 1971, with the rate of increase much lower than in recent years. At 2.4-percent, the increase was less than half the 10-year average, and well under the 6-percent increase that occurred from 1970 to 1971.

For the first time, the total increase was accounted for by the cost of providing marketing services, reflecting such rising costs as labor and packaging materials.

Normally, other factors enter into the bill's increase—a growth in volume marketed and more marketing services.

But in 1972, the amount of food marketed was nearly the same as in 1971 and did not keep pace with the growing population.

In a breakdown of the 1972 mar-

keting bill, ERS reports labor accounted for \$37.4 billion, nearly half the total. Labor costs were up 8.4 percent from 1971, as both wages and man-hours worked increased.

Unit labor costs rose 7.4 percent, with hourly labor costs going up and productivity declining.

Packaging was second to labor on the marketing bill, and at \$9.4 billion was up $4\frac{1}{2}$ percent from 1971. Higher prices for packaging materials accounted for about half the increase, and increased volume for the rest. One of the fastest-rising costs was for grocery bags, which went up nearly 16 percent in 1972.

Rail and truck transportation for farm food products cost \$6.1 billion last year, 2 percent above 1971. Transportation's share of the total marketing bill, however, stayed the same, 7.9 percent.

The increased cost of transportation followed rate increases for most food commodities except wheat. Because of truck competition in major producing areas, railroads reduced their rates for moving wheat, and this cost dropped 5 percent in 1972.

Corporate profits, at \$3.4 billion before Federal income taxes, were down \$300 million from a year earlier. Sales were up, but profit rates of corporations were less than in 1971. Overall, profits' share of the marketing bill dropped from 4.9 percent in 1971 to 4.4 percent in 1972.

Capital costs, which include depreciation, rent, and interest, totaled \$6.7 billion in 1972, slightly over 8 percent of the total food marketing bill. These costs rose nearly 12 percent in 1972, considerably more than in recent years.

Advertising again amounted to 2 cents of each food dollar, with the total bill for advertising for farm food totaling \$2.2 billion. Television, which 15 years ago shared in these advertising expenditures equally with the print media, had in 1972 a three times larger share than newspapers and magazines.

Business taxes were up 10 percent from the year before, totaling \$3.3 billion out of the marketing bill. These taxes have more than doubled in the last 10 years, with Social Security payments up due both to increases in rates and maximum taxable income, and State and local taxes showing sharp rate increases in recent years.

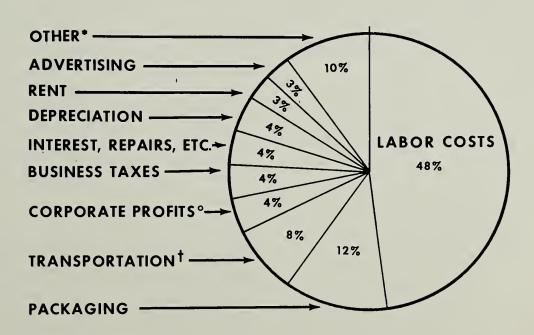
[Based on information by Terry Crawford, National Economic Analysis Division, in *Marketing and Transportation Situation*, MTS-186, August 1973.]

1972 MARKETING BILL

FOR FARM FOODS:

WHERE THE

MONEY WENT



*RESIDUAL INCLUDES SUCH COSTS AS UTILITIES, FUEL, PROMOTION, LOCAL FOR-HIRE TRANSPORTATION, INSURANCE.

OBEFORE TAXES. INTERCITY RAIL AND TRUCK. \triangle PRELIMINARY.

Recent Publications

Fifects of Alternative Marketing Margins for Beef and Pork. Richard Crom and Lawrence Duewer, Commodity Economics Division. AER-243.

The purpose of this simulation study is to project and compare results of the current margin and selected alternative margins under specific assumptions regarding future values of such variables as population, income, feed grain prices, and initial levels of cattle prices, inventories, and production. The study provides an insight into what might happen to prices and domestic production in the U.S. livestock industry. These simulated values are not forecasts of future prices and output.

Farm Mortgage Characteristics: January-June 1971 and Historical Data, 1961-69. Forest G. Warren and Nan P. Mitchem, National Economic Analysis Division. ERS-527.

Farm mortgage loans of \$250,000 or less in 1961-71 increased in average size and interest rates, and decreased in average years of repayment. An analysis of data for the first half of 1971 revealed that these loan characteristics varied by farm production region, type of farming, and lender.

Prices and Price Spreads for Eggs, Frying Chickens, and Turkeys in 12 Major Cities, 1966-71. Kenneth E. Blase, George M. Hickman, and Sandra F. Lesesne, Commodity Economics Division. Stat. Bull. 524.

Prices and price spreads for eggs, frying chickens, and turkeys are reported here for economists, researchers, price analysts, and others associated with the poultry industry. While the data are not analyzed or interpreted, they may be used as benchmarks to evaluate further price developments in the marketing system for poultry and eggs.

Inadequate Housing and Poverty Status of Households: Areas Served by Farmers Home Administration Programs, 1970, by States. Ronald Bird, Economic Development Division, Rural Development Service. Stat. Bull. 520.

Analysis of selected housing data from the 1970 Census indicates that about one-half of the 2.6 million housing units lacking complete plumbing in areas served by Farmers Home Administration programs

Single copies of the publications listed here are available free from The Farm Index, Economic Research Service, Rm. 1459—So., U.S. Department of Agriculture, Washington, D.C. 20250. However, publications indicated by (*) may be obtained only by writing to the experiment station or university. For addresses, see July and December issues of The Farm Index.

were occupied by households who had incomes above the poverty level. Of those who had incomes above the poverty level, white households occupied 79 percent of the inadequate units, black households 20 percent, and other households about 1 percent.

Nutrition Realities in the Lower Income Countries. Lyle P. Schertz, Deputy Administrator, Economic Research Service. Speech to the National American Chemical Society, April 11, 1973. Unnumbered publication.

Despite its quantum leaps in productivity, the 20th century food system has failed to eliminate the tragedy of malnutrition in the lower income countries. At least partial explanations for this failure lie in three critical, but frequently ignored, realities about efforts to improve nutrition. The first relates to agriculture, the second to economics, and the third to nutrition.

Costs of Storage and Selected Services for Farmers' Stock Peanuts in Commercial Facilities. N. A. Wynn, Jr., and Joan Pearrow, Commodity Economics Division. ERS-517.

Costs of storing and providing selected services for farmers' stock peanuts in commercial facilities during fiscal 1971/72 are presented for the three major producing areas by main types of peanuts handled and stored. Book and standardized costs are given for receiving, loading out, storing, insect control, drying, and cleaning.

The Lamb Industry: An Economic Study of Marketing Structure, Practices, and Problems. Gerald Engelman and Everett Stoddard, Packers and Stockyards Administration, and James Maetzold, Commodity Economics Division. P & SA Research Report No. 2.

Compared with the production of other red meats, that of sheep and lamb has declined in the last 3 decades. This report discusses the reasons for this, and several alternatives that might improve lamb competition with other meats.

Economic Impact of Discontinuing Use of Lindane and BHC. Herman W. Delvo, Robert P. Jenkins, and Austin S. Fox, National Economic Analysis Division. ERS-524.

If U.S. farmers had to replace lindane and BHC with nonorgano-chlorine insecticides in 1972, their costs would have been \$10.4 million higher. Included are \$10 million for alternative insecticides and \$400,000 in the value of yield losses because effective alternatives are not available. Costs are based on estimates of 1972 crop acreages and livestock numbers treated with lindane and BHC.

The One-Man Farm. Warren R. Bailey, Commodity Economics Division. ERS-519.

Most of the economies associated with size in farming are achieved by the one-man fully mechanized farm. This report attempts to answer such questions as—What is a technically optimum one-man farm? How large is it in terms of acreage and capital investment? How does the optimum vary by type of farming? What are the returns to labor and management?

Economic Trends

11.24								
Item	Unit or Base Period	1967	Year	1972 July	May	1973 June	July	
Differen				,,			July	
Prices: Prices received by farmers	1967=100		126	127	163	172	172	
Crops	1967 — 100	_	115	11:5	154	172	164	
Livestock and products	1967=100		134	136	169	173	179	
Prices paid, interest, taxes and wage rates	1967=100		127	127	143	146	146	
Family living items	1967=100		124	125	136	138	138	
Production items	1967=100		122	122	143	149	148	
Ratio 1	1967=100		100		114	118	118	
Wholesale prices, all commodities	1967=100	_	4404	119.7	133.5	136.7	134.9	
Industrial commodities	1967=100		117.9	118.1	125.8	126.9	126.9	
Farm products	1967=100	_	125.0	128.0	170.4	182.3	173.3	
Processed foods and feeds	1967=100	_	120.8	121.5	145.0	151.8	146.5	
Consumer price index, all items	1967=100	_	125.3	125.5	131.5	132.4	132.7	
Food	1967—100		123.5	124.2	137.9	139.8	140.9	
Farm Food Market Basket: 2								
Retail cost	1967—100		121.3		138.2		141.5	
Farm value	1967=100	_	124.4	127.7	155.7	163.8	167.0	
Farm-retail spread	1967=100	_	119.3	118.7	127.1	125.5	125.4	
Farmers' share of retail cost	Percent		40	41	44	45	46	
Farm Income: 3	106= 100							
Volume of farm marketings	1967=100	- 42.602	112	105			-	
Crass Crass	Million dollars	42,693	60,671	4,526	5,158	5,516	6,200	
Crops Livestock and products	Million dollars	18,434		1,807	1,437	1,947	2,800	
Realized gross income 4	Million dollars	24,259 49.0	35,596	2,719	3,721	3,570	3,400	
Farm production expenses ⁴	Billion dollars Billion dollars	34.8	68.9 49.2	_	_	82.5 58.0		
Realized net income 4	Billion dollars	14.2	19.7	=	_	24.5		
Agricultural Trade:	Difficit doffars	17.2	15.7			27.5		
Agricultural exports	Million dollars		9,404	6.01	1 265	1 276	1 210	
Agricultural imports	Million dollars		6,459	681 472	1,365 786	1,376 664	1,218 635	
Land Values:	Willion dollars		0,433	4/2	700	004	033	
Average value per acre	Dollars	⁶ 168	⁷ 219				⁸ 247	
Total value of farm real estate	Billion dollars	⁶ 181.9	⁷ 230.5				*258.7	
Gross National Product: 4	Billion dollars	793.9	1,155.2	_	_	1,272.0	230.7	
Consumption	Billion dollars	492.1	726.5	_	_	795.6		
Investment	Billion dollars	116.6	178.3	_	_	198.2	_	
Government expenditures	Billion dollars	180.1	255.0	_	_	275.3	_	
Net exports	Billion dollars	5.2	— 4.6	_	_	2.8	_	
Income and Spending: ⁵								
Personal income, annual rate	Billion dollars	629.3	939.2	935.2	1,018.7	1,026.6	1,033.9	
Total retail sales, monthly rate	Million dollars	26,151	37,365	37,342	41,735	41,218	42,618	
Retail sales of food group, monthly rate	Million dollars	5,759	7,918	7,956	8,665	8,680		
Employment and Wages: 5			0		•	•	•	
Total civilian employment	Millions	74.4	⁹ 81.7	⁹ 81.8	984.0	⁹ 84.7	°84.6	
Agricultural	Millions	3.8	3.5	93.4	3.3	°3.4	3.5	
Rate of unemployment	Percent	3.8	5.6	5.6	5.0	4.8	4.7	
Workweek in manufacturing Hourly earnings in manufacturing,	Hours	40.6	40.6	40.6	40.7	40.6	40.8	
unadjusted	Dollars	2.83	3.81	3.78	4.02	4.04	4.07	
Industrial Production: 5	1967 = 100	2.03	115	3.70	125	125	126	
Manufacturers' Shipments and Inventories: 5	1507 100		113	113	123	123	120	
Total shipments, monthly rate	Million dollars	46,449	62,466	61,047	71,284	71,616	73,597	
Total inventories, book value end of month	Million dollars	·				113,025		
Total new orders, monthly rate	Million dollars	46,763		61,486		75,361	75,390	
		/						

¹ Ratio of index of prices received by farmers to index of prices paid, interest, taxes, and farm wage rates. ² Average annual quantities of farm food products purchased by urban wage-earner and clerical worker households (including those of single workers living alone) in 1959-61—estimated monthly. ³ Annual and quarterly data are on 50-State basis. ⁴ Annual rates seasonally adjusted second quarter. ⁵ Seasonally adjusted. ⁶ As of March 1, 1967. ⁷ As of March 1, 1972. ⁸ As of March 1, 1973. ⁹ Beginning January 1972 data not strictly comparable with prior data because of adjustment to 1970 Census data.

Sources: U.S. Dept. of Agriculture (Farm Income Situation, Marketing and Transportation Situation, Agricultural Prices, Foreign Agricultural Trade and Farm Real Estate Market Developments); U.S. Dept. of Commerce (Current Industrial Reports, Business News Reports, Monthly Retail Trade Report and Survey of Current Business); and U.S. Dept. of Labor (The Labor Force and Wholesale Price Index).

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